## Oregon Coastal Ocean Observing System (OrCOOS)

The Oregon Coastal Ocean Observing System (OrCOOS) is a new partner in the Nation's efforts to develop an Integrated Ocean Observing System (IOOS), a key recommendation of the US Commission on Ocean Policy. OrCOOS is part of the Northwest Association of Networked Ocean Observing Systems (NANOOS), which is recognized by the National Oceanic and Atmospheric Administration (NOAA) as the regional association for the Pacific Northwest. OrCOOS represents the integration of a wide variety of ocean observing and modeling systems that will provide knowledge services for scientific, management, and educational purposes. OrCOOS will consist of instrumentation deployed in and near the coastal ocean and returning data shoreside in real-time along with data from satellites and shore-based sensors. Data from profiling moorings, undersea autonomous vehicles, land-based surface current mapping systems and wave detection radars, coupled together with computer models of the coastal ocean circulation and waves, will be available via a public web portal. OSU, through internationally recognized programs in oceanography, atmospheric sciences, engineering, fisheries and wildlife, and nearshore ecology, is implementing a coastal observing and prediction system for the benefit of Oregon's citizens. The Hatfield Marine Science Center in Newport provides a unique partnership of science, resource agencies, and education for Oregon's coastal ocean. Oregon Sea Grant will play a key role in both education and outreach as well as in connecting OrCOOS with the coastal community. Ocean products and services, for example maps of sea surface temperature, ocean currents, and wave heights and directions as well as ocean predictions, will be made available in user-friendly formats.

The Oregon coastal margin of the Northeast Pacific ocean is unique in that it is strongly influenced by local wind- and buoyancy-driving, by interannual variability originating in the tropical Pacific and communicated via both the oceanic coastal wave guide and by atmospheric teleconnections, and by variations in the large-scale North Pacific circulation. The Oregon coastal region offers important contrasts for comparative studies, for example narrow versus wide continental shelves, smooth versus highly-variable coastline and bottom bathymetry, and various degrees of freshwater forcing.

The first-year effort for OrCOOS will focus on: building telecommunications and network infrastructure to facilitate the flow of data into OrCOOS and the subsequent output of user products; support for enhancing the use of existing land-based coastal radar data and preliminary ocean circulation forecasts into readily accessible formats; and deployment of a mid-shelf, interdisciplinary oceanographic mooring capable of telemetering data to shore in near real-time.

**Partnerships and Collaboration:** OSU is collaborating with the Oregon Institute for Marine Biology (University of Oregon), ideally positioned for southern Oregon and Coos Bay efforts, and Oregon Graduate Institute (Oregon Health and Sciences University), with its proximity to the Columbia River, on this effort. OSU has ongoing relationships with the Oregon Departments of Land Conservation and Development, Geology and Mineral Industries, Environmental Quality, and Fish and Wildlife. Federal agencies interested in partnering on this project include the NOAA Fisheries Northwest Fisheries Science Center and the South Slough National Estuarine Research Reserve (Charleston, OR). Western Environmental Technology Laboratories, Inc., an Oregon based company, is keenly interested in this project.